

Claims

1. A vibration isolating fuel pump assembly comprising:
a stationary support (14) to be mounted in a fuel tank;
an inner retainer (16) fitted in said stationary support (14), said inner
5 retainer (16) having a retainer body (18) and at least two flexible legs (20) extending
substantially vertically and connected to said retainer body (18), the upper ends of said
flexible legs (20) being firmly supported by said stationary support (14) in the upper part
thereof; and
a fuel pump (12) received in said retainer body (18);
10 **characterised in that** each flexible leg (20) has its lower end connected
to said retainer body (18) via a resilient connecting element (24) having a generally S-
shape profile.
2. The assembly according to claim 1, characterised in that said S-shaped
15 connecting element (24) is horizontally arranged.
3. The assembly according to claim 1 or 2, characterised in that said S-
shaped connecting element (24) has:
an interior portion (26) on the periphery of said retainer body (18);
20 an exterior portion (28) connecting to the respective leg (20); and
a central portion (30) extending between opposite edges of said interior
(26) and exterior (28) portions.
4. The assembly according to claim 3, characterised in that
25 said interior portion (26) has, on its side facing the exterior portion (28),
a first rib (32); and

said exterior portion (28) has, on its side facing the interior portion (26), a second rib (34) coinciding with that of the interior portion (26) in such a way that when said S-shaped element (24) is compressed, said ribs (32, 34) come into abutment against said central portion (30) in face-to-face relationship.

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5. The assembly according to claim 3 and 4, characterised in that first and second ribs (32, 34) extend vertically.

6. The assembly according to any one of the preceding claims,
10 characterised in that

said retainer body (18) is a cylindrical sleeve having an inner diameter essentially corresponding to the outer diameter of a cylindrical pump housing; and

said retainer body (18) is provided with means for fixing said fuel pump (12) received therein.

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7. The assembly according to the preceding claim, characterised in that each S-shaped connecting element (20) is designed to follow the curvature of said retainer body (18).

20 8. The assembly according to any one of the preceding claims, characterised by three flexible legs (20).

9. The assembly according to any one of the preceding claims, characterised in that said flexible legs are arranged at specific angles around said inner
25 retainer so that there is only one way of installing said inner retainer in said stationary support.

10. The assembly according to any one of claims 1 to 8, characterised in that said flexible legs (20) are evenly spaced around said inner retainer (16).

11. The assembly according to any one of the preceding claims,
5 characterised in that each flexible leg (20) is provided at its upper end with fixing means that cooperate with respective fixing means on the upper part of said stationary support (14).

12. The assembly according to any one of the preceding claims,
10 characterised by a retainer ring (36) that is mounted between said retainer body (18) and said flexible legs (20).

13. The assembly according to the preceding claim, characterised in that said retainer ring (36) is arranged at half the height of said flexible legs (20).
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14. The assembly according to any one of claims 1 to 10, characterised
in that
a retainer ring is firmly supported in the upper part of said stationary support; and
20 said flexible legs are firmly supported by said retainer ring.

15. The assembly according to any one of the preceding claims, characterised in that said stationary support (14) is a plastic reservoir.

25 16. The assembly according to any one of the preceding claims, characterised in that said inner retainer (16) is integrally moulded in semi-rigid plastic material.